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Research on Information Service Practice for Regional Innovation and Industrial Development: A Case Study of Regional Information Services at the National Science Library, Chinese Academy of Sciences (Postprint)

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Date: 2023-04-01T16:16:05+00:00

Abstract

[目的/意义] With the proposal of the independent innovation strategy, the fundamental role of scientific and technological information and intelligence in national scientific and technological development has been increasingly recognized. It is essential to conduct research and practice on information services for regional innovation and economic development, and to construct a methodological system and implementation scheme for information services oriented toward regional innovation and economic development.

[方法/过程] Through investigating the practices of domestic and foreign documentation and information institutions in serving regional innovation and economic development, and analyzing the overall design, service practices, and case studies of regional information services conducted by the Chinese Academy of Sciences Documentation and Information Center for provincial academies of sciences, CAS transformation centers, local governments, and park enterprises during the 12th and 13th Five-Year Plan periods, this study summarizes and generalizes the characteristics and effectiveness of the knowledge services for regional innovation and economic development provided by the Chinese Academy of Sciences Documentation and Information Center.

[结果/结论] Based on these practices, the study proposes that libraries' provision of information services for regional innovation and industrial development further expands their service domain, represents a growth point for library development, and will continue to evolve and improve in both service content and service methods.

Full Text

Abstract

With the proposal of the independent innovation strategy, the foundational role of scientific and technological information in national scientific development has received increasing attention. Conducting research and practice on information services for regional innovation and economic development, and constructing a methodological system and implementation plan for such services, is therefore essential. This study investigates the practices of domestic and foreign library and information institutions in serving regional innovation and economic development, and analyzes the overall design, service practices, and case studies of regional information services provided by the National Science Library of the Chinese Academy of Sciences (CAS) to provincial academies of sciences, CAS transfer centers, local governments, and park enterprises during the 12th and 13th Five-Year Plan periods. Based on this practical experience, we propose that providing information services for regional innovation and industrial development represents a significant expansion of libraries' service domains and a promising growth point for their evolution, with continuous development and improvement in both service content and modalities.

Keywords: regional innovation; industrial development; knowledge services; regional information services; National Science Library of CAS

2. Library Services for Regional Innovation and Economic Development

Information services for high-tech and industrial innovation development are undertaken by scientific and technical information institutions, economic information service agencies, and related social organizations. Large libraries and documentation institutions both domestically and internationally play a critical role in providing information assurance to promote national and social innovation development.

2.1 Services of Foreign Library and Information Institutions

Foreign library and information institutions have long conducted theoretical research and practical exploration of enterprise information services. Leveraging database resources, they provide scientific and technological consulting services to enterprises and governments while continuously expanding service breadth and depth, creating direct or indirect economic value for national innovation development. The British Library established the "Business and Intellectual Property Centre," offering enterprises services including patents, business investigations, and commercial advice based on its rich database resources. Centered on the strategic positioning of "promoting national innovation development," it explores enterprise and intellectual property information service models and promotes them nationwide. The British Library's 2015-2023 report proposed

improving and repositioning the library's institutional role, prioritizing research and innovation services, and enhancing service effectiveness for enterprise innovation.

The Science, Industry and Business Library of the New York Public Library emphasizes the development of business resources, providing information retrieval, training, lectures, and enterprise consulting services to support enterprise innovation. The Canada Institute for Scientific and Technical Information enhances scientific research and innovation through high-value STM information and publishing services, providing equal and permanent information access for Canadian research and innovation, and creating a rapid and innovative scientific communication environment for Canadian scientists and entrepreneurs to promote knowledge innovation and industrialization. It also assists enterprises in implementing intellectual property strategies and accelerating the marketization and industrialization of technological achievements through diversified high-value services.

The Korea Institute of Science and Technology Information (KISTI) provides enterprises with cutting-edge information technology, scientific and technological information resources, consulting services, and the National Digital Science Library platform for R&D. The National Digital Science Library platform integrates multiple large databases including papers, patents, standards, scientific and technical reports, scientific and technological developments, and factual scientific and technological information to support domestic research institutes and enterprises in querying information related to new technologies, achievements, patents, policies, markets, and industries.

2.2 Services of Domestic Library and Information Institutions

Domestic library and information institutions utilize network and information technologies to provide information and intelligence services through resource sharing platforms, industrial information monitoring platforms, WeChat public accounts, and other online and offline combined service models. The National Library of China provides “government information services, scientific and technological consulting services, and enterprise information services,” relying on rich collection resources and modern monitoring technologies to offer public opinion analysis and intelligence research consulting services that provide intellectual support for user strategic decision-making. It has established an Enterprise Information Service Center to provide key field information monitoring and tracking services for governments, enterprises, universities, and the public.

Shanghai Library provides decision-making support for government departments and comprehensive intelligence services for scientific and technological innovation entities. It has established an industrial library to build a relational resource system for key industrial fields, collecting important toolbooks, encyclopedias, conference proceedings, and industrial reports. Based on overall industrial development trends and focusing on new sub-fields of industrial

concern, it publishes public welfare industrial research reports. Suzhou Dushu Lake Library, based on the industrial characteristics of Suzhou Industrial Park, has established a four-horizontal and four-vertical information intelligence service framework for enterprises at different levels, providing basic literature services, thematic consulting, industrial consulting, and strategic consulting. Shenzhen University Town Library has established service stations in high-tech enterprise clusters, providing enterprise users with electronic resources and information literacy training, while supporting government decision-making with intelligence research services and providing information support and customized services for key supported industries.

The Institute of Scientific and Technical Information of China consistently provides decision-making support for government departments such as the Ministry of Science and Technology and comprehensive information services for scientific and technological innovation entities. The China Chemical Information Center uses the chemical industry as an entry point, based on existing patent information service platforms and other information systems, to provide market research, enterprise development strategic planning, park/regional development planning, intellectual property consulting, and intellectual property information services for government departments and enterprises. Guangdong Provincial Science and Technology Library aims to build a key industrial technology analysis and strategic decision support platform for Guangdong Province, continuously strengthening information resources, intelligence analysis tools, and talent team construction over the years to serve scientific research institutions, government management departments, and major industrial technology R&D and demonstration projects.

3. CAS Regional Information Service Framework

3.1 Service Context

With the proposal of the independent innovation strategy, the foundational role of scientific and technological information in national scientific development has received increasing attention. As an important component of the national information assurance system, library and information institutions represented by scientific and technological intelligence agencies must utilize their accumulated information resources, information technology capabilities, intelligence service capacities, and talent advantages to serve regional innovation and economic development information needs. This represents an expansion of service scope, deepening of service content, and extension and innovation of service capabilities for scientific and technical documentation institutions.

In response to opportunities and challenges, the National Science Library of CAS has continuously expanded its services in regional development strategy consulting, intelligence services for key technology industrialization special projects, and scientific and technological information services for socio-economic development. It has organized intelligence research and services oriented toward

regional development, industrial development strategies, and socio-economic development, while expanding the information resource system and tools supporting industrial intelligence research, thereby constructing new documentation and intelligence service capabilities. This has formed strategic intelligence services for macro-level scientific and technological decision-making, disciplinary intelligence services for frontline research, and regional information services for regional innovation development.

Since 2010, the National Science Library's information services for regional innovation and economic development have gone through exploration, construction, and expansion phases. During the 12th Five-Year Plan period, services were extended to 18 provincial academies of sciences, providing services to local governments, enterprises, and transfer centers, with developments in industrial technology intelligence. A focused, point-and-surface-combined documentation and intelligence service system for regional innovation development was formed, establishing service characteristics, mechanisms, and models. During the 13th Five-Year Plan period, oriented toward the "five-in-one" regional innovation system construction and development, the library deployed key tasks with the service concept of "demand-driven, problem-oriented, information integration, open collaboration, and development support," achieving breakthroughs in building an integrated scientific and technological intelligence service system for regional development and intelligence services for provincial academies and the CAS STS network.

3.2 Framework Design

As a national-level documentation and intelligence institution, the National Science Library of CAS provides not only research-embedded information services for CAS researchers and disciplinary intelligence services for CAS management decision-makers, but also documentation and intelligence services for regional innovation and economic development entities. Based on regional information service demands, the library designed a service framework from five dimensions: service subjects, service objects, service content, service capacity, and service mechanisms [Figure 1: see original paper], and formulated service strategies to support regional scientific, technological, and economic development.

First, as the service subject, the National Science Library's advantages in providing regional innovation and economic development information services lie in information resources and expert networks. In addition to rich natural science information resources, it possesses a strong expert team composed of researchers from various CAS institutes, as well as professional documentation and intelligence teams with extensive service experience and a positive service reputation.

Second, the service objects—including local research institutions, technology enterprises, high-tech parks, and local governments—are regional innovation entities and the main force driving regional scientific and technological innovation and economic development. Serving these regional innovation entities consti-

tutes the core of regional information services. CAS transfer centers are both service objects and important departments for jointly extending and expanding information and intelligence services to local regions.

Third, service content is designed according to demand characteristics, including: scientific and technological information services, training on scientific and technological information utilization, domain-specific research, analysis of scientific and technological competitiveness and influence, talent and project evaluation, industrial technology analysis, industrial intelligence services, industrial development planning, regional development strategic planning, expert network construction, and information services related to achievement transfer and transformation, with continuous expansion based on evolving needs.

Finally, service capacity building encompasses not only the development of documentation and intelligence talent teams but also the construction of service standards, service processes, and various service platforms such as documentation and intelligence sharing service platforms and key field information and intelligence service platforms, as well as various research projects (including the “One-Three-Five” documentation and intelligence capacity building project, STS regional key projects, and commissioned projects based on user needs) that combine theoretical research with service practice to comprehensively enhance regional service capabilities. Mechanism construction effectively promotes services through the establishment of regional information service networks, alliances, service stations, and industrial intelligence centers that extend documentation and intelligence service capabilities beyond CAS and into regions, along with the establishment of liaison librarian mechanisms to connect service demands and provide solutions.

4. Practice and Cases of CAS Serving Regional Innovation Development

4.1 Serving Local Research Institutions: Documentation and Intelligence Services Under the National Academy of Sciences Alliance

Provincial academies of sciences are important research institutions in their respective provinces, conducting applied scientific research and technology development to meet provincial and regional economic and social development needs. In 2012, under the framework of the National Academy of Sciences Alliance, the National Science Library took the lead in establishing the Documentation and Intelligence Branch. Addressing provincial academies’ needs for scientific literature during research innovation, for novelty search and technology achievement evaluation and transformation in research management, and for macro-level comprehensive analysis in scientific and technological decision-making, disciplinary and industrial trends, the library collaborated with 18 provincial academies to provide shared documentation and intelligence services covering literature resource guarantee, research information literacy training, documentation and intelligence capacity building, scientific decision-making intelligence analysis,

and achievement transfer and transformation information services.

Starting from basic literature services, the collaboration gradually deepened to personalized customized services, thematic information services, competitiveness and influence analysis, and industrial technology market analysis. The library optimized the scientific research information service environment for provincial academies by constructing a documentation and intelligence sharing service platform, offering literature delivery and novelty search services, and establishing multi-form, multi-level training programs including exchange librarians, advanced documentation and intelligence training, one-on-one practical training, and think tank lectures to support team building and capacity enhancement. Multi-level cooperation mechanisms were established to meet the multi-layered information and intelligence needs of researchers, research managers, and leadership decision-makers, forming a methodology and system for shared documentation and intelligence services for provincial academies.

As the information environment and demands evolved, service content was deepened through iterative upgrading from basic services to knowledge services, providing information and intelligence support for provincial academies' disciplinary development, research layout, and achievement industrialization. For example, the library supported local research institution development through the *Industrial Hemp Industry Intelligence Research Report*, which facilitated and contributed to the provincial three-year industrial hemp plan, strengthening scientific and technological support for the provincial academy's hemp research. The *Innovation-Driven Development Newsletter*, jointly compiled with the Jiangxi Provincial Academy of Sciences, provided information services on innovation policies, frontier technologies, and typical cases concerning hot issues in science and technology policy and industrial development, receiving multiple important instructions from provincial leaders. The *Paper Mulberry Industry Analysis Report* cooperated with the Henan Provincial Academy of Sciences provided intelligence support for the "Hybrid Paper Mulberry Industry Common Key Technology Application and Demonstration Promotion Project" of a Henan high-tech company, serving scientific and technological poverty alleviation. Cooperation with the Heilongjiang Provincial Academy of Sciences on blockchain and Heilongjiang agriculture industry research provided decision-making support for relevant provincial government departments.

Services expanded from supporting provincial academy scientific and technological innovation to jointly providing knowledge services with provincial academies for regional development, serving governments, enterprises, and characteristic industries, and assisting regional think tank construction. For instance, the *Research Institution Research Focus Scientific and Technological Innovation Capacity Evaluation and Research Influence Analysis* supported research layout by evaluating research focuses, selecting the top ten research directions, and analyzing their domestic and international influence in applied basic and key technology R&D directions. This helped one provincial academy identify three "key disciplinary fields," four "development disciplinary fields," and three "emerging

disciplinary fields,” providing important support for its 13th Five-Year Plan.

In the big scientific data environment, the National Science Library is building a new ecosystem of knowledge co-construction, sharing, and collective intelligence aggregation based on broad scientific and technological big data, using the “Smart Research” platform for demonstrative application construction. Under the concept of a scientific research information service ecosystem, the library conducts demonstrative service construction in provincial academies to explore mechanisms promoting sustainable service ecosystem development. Relying on the “Scientific Big Data Knowledge Center” and “Smart Research Platform,” a unified alliance platform for scientific research management, data, achievements, and academic exchange is being constructed to drive data sharing and co-construction among provincial academies and realize a new open, cooperative, sharing, and exchanging scientific research ecosystem.

Over the years, 18 service stations have been established, providing more than 40,000 scientific and technological documents, over 240 thematic documents, nearly 200 user training sessions, 25 documentation and intelligence training sessions for 900 participants, nearly 400 novelty searches, and more than 200 intelligence services. By the end of 2019, 13 provincial academies (72%) had established or transferred departments to documentation and intelligence services and strategic research, significantly improving from the initial situation where 70% of provincial academies lacked documentation and intelligence institutions and personnel. Service capacity has been enhanced, transforming from one-way support to two-way mutual benefit, with users becoming both service objects and collaborative partners. Knowledge service capabilities are established and disseminated through shared services, achieving cross-regional and cross-domain integration of user resources.

4.2 Serving Parks and Enterprises: Expanding Regional Information Services Through the STS Network

The CAS Science and Technology Service (STS) Network serves as the “bridgehead” for CAS facing the national economic main battlefield and an important carrier for CAS serving regional economic and social development. CAS achievement transfer and transformation centers are dispatched to local regions for scientific and technological cooperation, serving as crucial nodes connecting CAS and local areas. Relying on the STS network and CAS transfer centers, the National Science Library has established cooperation in Tangshan, Changchun, Baotou, Shenyang, Jinan, Jining, Jilin, Jiangsu, and other locations through various methods including establishing novelty search stations, industrial intelligence centers, collaborative industrial research, and signing knowledge service agreements. Focusing on local industrial information and intelligence needs, the library provides documentation and information services, novelty searches, intelligence analysis of technology, market, and policy, and establishes industrial information service platforms to support decision-making and R&D needs of governments and enterprises. Through annual service promotion activities, the

library enhances users' ability to utilize documentation and intelligence services while discovering and stimulating user needs to provide consulting services for transfer centers, parks, and enterprises.

The library has trained 37 novelty search personnel for transfer centers and local regions, guided novelty search stations in Baotou, Tangshan, and Shenyang to complete over 1,520 search reports, and provided more than 60 services including novelty searches, information literacy training, and intelligence analysis for over 30 key regional institutions. Through transfer centers, the library connects with enterprise parks to understand needs and provides point-to-point services through project consulting and collaborative research. For example: (1) Cooperating with the CAS Shandong Comprehensive Technology Transfer Center Jining Branch and Jining Industrial Technology Research Institute, the library conducted research and analysis on Jining's high-end equipment and high-end chemical industries, completing industrial research analysis reports to help the Jining municipal government understand industrial status, identify technology needs, and facilitate technology introduction and achievement transformation. (2) With the CAS STS Jiangsu Center, the library conducted research on Jiangsu chemical industry park development, investigating and analyzing the status of Jiangsu chemical parks, comparing domestic and international chemical industry development layouts and plans, examining domestic chemical industry policies, and analyzing key projects and teams related to chemical industry environmental protection and safety policies, thereby proposing development recommendations for existing problems in Jiangsu chemical parks. (3) Cooperating with the CAS STS Shandong Center, the library conducted research and analysis on Shandong's green chemical development, compiling and releasing the "Research on the Development Prospects of Shandong Green Chemical Industrial Technology" report for the "CAS-Shandong Green Chemical Technology Innovation Forum and Academician Expert Science and Technology Trip Activity," which promoted the transformation of CAS green chemical technology achievements and enhanced Shandong's chemical industry level, receiving high recognition from leaders of CAS Shenyang Branch and Shandong Provincial Department of Science and Technology. This formed a rapid and effective service model where the documentation and intelligence center relies on the STS network and cooperates with transfer centers to serve government departments, parks, and enterprises.

4.3 Serving Government Decision-Making and Regional Development Planning: Cooperation with CAS Branches

Facing local governments' industrial development decision-making needs and the strategic needs of CAS-local scientific and technological cooperation, the National Science Library cooperates with CAS branches to provide intelligence services supporting regional development and government decision-making, as well as strategic consulting services supporting CAS-local scientific and technological cooperation development.

4.3.1 Providing Industrial Decision-Making Services for Regional Characteristic Industries

- (1) In cooperation with the Changchun Branch and Jilin Municipal Science and Technology Bureau, the library conducted technology and market research in the biomass industry field. Using visualization analysis, industrial technology analysis, and competitive intelligence analysis methods, it constructed an intelligence analysis methodology system for industrial (technological) decision-making and completed the *Biomass Conversion and Utilization Industry Consulting Report*. The library built a biomass industry information and resource platform to continuously track the development status of the biomass industry, excavate deeper user needs, and create a one-stop information service platform integrating scientific and technological achievements, expert teams, industry information monitoring, and intelligence services. Based on the local science and technology bureau's needs, the library conducted research and formulation of a straw industry technology roadmap to provide references for Jilin's straw industry planning and project initiation. This formed a characteristic industry information and intelligence service model including "industry consulting report-industry information platform-industry alliance-sub-field research."
- (2) In cooperation with the CAS Baotou Rare Earth R&D Center, the library conducted strategic intelligence research on the rare earth industry. Focusing on the rare earth industry, it tracked and analyzed important information from industrial markets, policies, sub-field technologies, and key leading enterprises through qualitative and quantitative analysis combined with expert consulting to form comprehensive rare earth industry technology analysis research reports. These provide information and intelligence support on rare earth markets, industries, policies, and technologies for relevant government departments, research institutions, and enterprises. The library also built a rare earth big data platform to track and monitor literature, patents, industry dynamics, resource distribution, element and derivative information, and scientific research projects in the industrial field, providing scientific and technological information, literature retrieval, patent services, target enterprise monitoring information, and benchmarking analysis services according to key user needs to support industrial decision-making for regional characteristic industries.

4.3.2 Providing Strategic Planning for CAS-Local Scientific and Technological Cooperation Through service practices for governments, industries, and parks/enterprises, the library has fully recognized the important role of documentation and intelligence institutions in regional innovation development. To better leverage the role of documentation and intelligence institutions as scientific and technological think tanks and support CAS-local cooperation, the National Science Library has conducted STS regional project cooperation with branches to study the effectiveness of CAS-local scientific and technological

cooperation and develop cooperation plans.

- (1) Conducting research on the effectiveness of CAS-local scientific and technological cooperation. To promote regional innovation and local new R&D institution construction, the library cooperated with the Nanjing Branch and Shenyang Branch to summarize and demonstrate CAS's scientific and technological cooperation work in Jiangsu and Shandong provinces. It systematically analyzed the effectiveness of CAS's cooperation with these two provinces in achievement transfer and transformation, scientific and technological cooperation, docking services, consulting, talent cooperation and training, and industrialization work, as well as CAS's contributions to technical support, model innovation, and mechanism exploration in serving the two provinces, completing effectiveness research reports.
- (2) Cooperating with the Changchun Branch to conduct research on the branch's scientific and technological cooperation and regional innovation development. The library carried out strategic research on promoting Northeast revitalization and high-quality development through science and technology, identifying missions, directions, and measures for scientific and technological support of regional strategies. It formulated the 14th Five-Year Plan for CAS's scientific and technological cooperation with Jilin and Heilongjiang provinces to promote regional innovation development, developed work programs for CAS's cooperation with these two provinces (2021-2022), and compiled effectiveness reports on cooperation during the 13th Five-Year Plan period. These studies and services explored and demonstrated a model of "joint expression of cooperation effectiveness and plans with local regions," playing the role of a scientific and technological think tank and enhancing regional development planning research capabilities.

5. Summary of Service Practice

5.1 Formation of Service Networks and Mechanisms

- (1) Establishing a documentation and intelligence service network for regional innovation and industrial development. Through service framework design, service plan formulation, and service practice, the National Science Library has selected node locations and institutions for the service network based on the characteristics and demands of regional innovation development, considering institutional nature, regional distribution, and field distribution. By establishing service stations, novelty search stations, industrial intelligence centers, and signing strategic cooperation agreements or conducting joint services and research, the library has built and initially formed a documentation and intelligence service network for regional innovation development. The current service network covers more than 20 cities, involving 18 provincial academies, 8 CAS branches and transfer centers, serving local governments, technology enterprises, and extending

services to local regions through cooperation with provincial academies and CAS transfer centers. This approach provides public welfare services to drive paid services, achieving win-win outcomes in capability and benefit.

- (2) Forming effective mechanisms to promote and guarantee service implementation. Through continuous exploration in service practice, the National Science Library has gradually formed various guarantee mechanisms for provincial academies, the STS network, transfer centers, government parks, and industrial enterprises, including service embedding mechanisms, liaison librarian mechanisms, alliance branch mechanisms, annual research mechanisms, and platform sharing mechanisms . These mechanisms ensure service timeliness, effectiveness, and sustainable development.

Table 1. Regional Service Mechanism Construction

Mechanism Type	Description
Service Embedding	Embedding services into local research institutions (provincial academies), transfer centers, and high-tech parks through establishing service stations, novelty search stations, industrial intelligence centers, joint services, and cooperation agreements
Liaison Librarian	Each node in the service network has dedicated liaison librarians responsible for connecting service demands, conducting user training, promoting services, and forming service solutions for specific needs

Mechanism Type	Description
Alliance Mechanism	Alliance mechanisms with annual meetings; for example, establishing the Documentation and Intelligence Branch under the National Academy of Sciences Alliance framework to create alliance mechanisms at decision-making, management, and service levels, summarizing progress, sharing experiences, and discussing service development through annual work conferences
Regular Research	Conducting annual or biennial demand research to timely grasp user needs and changes for providing satisfactory services
Platform Sharing	Establishing shared service platforms, building alliance scientific research information ecosystems, sharing information, achievements, and services, and conducting academic exchange activities

5.2 Formation of Service Content System and Products

Addressing information needs for regional innovation development, the National Science Library has gradually formed a user demand-driven documentation and intelligence service system for regional innovation development through service practices including user training, promotion, literature services, intelligence research, industrial intelligence, and industry monitoring. This system serves provincial academies, government parks, industrial enterprises, and investment/financing entities.

Under the National Academy of Sciences Alliance framework, the library cooperates with 18 provincial academies in scientific literature information assurance, user information service training, documentation and intelligence capacity building, and strategic decision-making and industrial intelligence. Cooperating with CAS branches and transfer centers, the library provides services for CAS achievement transformation and supports CAS-local scientific and technological cooperation in industrial research, service platforms, scientific and technological information services, and industrial planning. Through cooperation with provincial academies and CAS transfer centers, CAS's documentation and intelligence

services are extended to local government departments and enterprises. Relying on the regional information service network, the library provides a series of services and products for local governments, enterprises, technology R&D institutions, and social organizations, including:

- (1) **Industrial resource information service platforms** that aggregate scientific literature, patents, frontier consulting, key R&D institutions, important domain experts, major projects, industrial resources, and intelligence services to serve local government industrial development planning and support industrial field scientific research innovation.
- (2) **Information and intelligence services supporting government decision-making**, including the *Innovation-Driven Development Newsletter* focusing on global scientific and technological development hotspots and proposing solutions suitable for local regions based on local scientific innovation environments; *Industrial Transformation and Upgrading Development Recommendations* serving traditional industry transformation needs through comprehensive research on industrial policies, development environments, and status; and *CAS-Local Scientific and Technological Cooperation Effectiveness Research Reports* and *14th Five-Year Cooperation Development Plans* tracking and summarizing cooperation progress and effectiveness.
- (3) **Industrial intelligence analysis services** including: *Industrial Technology Intelligence* analyzing technology trends, core technologies, and key players in strategic emerging industries; *Technology Analysis Reports* helping researchers identify technological innovation points, hotspots, and solutions while discovering competitors and cooperation partners; *Industrial Market Analysis Reports* focusing on industrial markets and financial environments to explore development patterns and predict future trends; and *Industrial Technology Roadmaps* addressing key issues in industrial development processes to accurately and effectively manage technological innovation and breakthroughs.
- (4) **Institutional competitiveness evaluation intelligence services** including *Institutional Competitiveness and Influence Analysis Reports* establishing evaluation indicator systems to comprehensively analyze development advantages and disadvantages compared with peer institutions, and *Disciplinary Development Layout Planning* through comprehensive analysis and benchmarking against major global institutions to predict future development trends and propose key research directions and specific measures.

6. Conclusion

Through nearly a decade of regional information service practice, the National Science Library of CAS has provided methodological references for library service transformation, offered experience for deepening and expanding library

services, and validated the rationality of service framework design. Serving regional innovation and industrial development further expands libraries' service domains, encompassing not only consulting services for enterprises, industries, and sectors but also knowledge services supporting decision-making in high-tech parks and government departments. This represents an excellent growth point for libraries from both the perspective of supporting national regional innovation development and the self-development of documentation and intelligence institutions, constituting libraries' social responsibility and promising continuous development.

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Author Contributions

Jia Ping: Responsible for topic selection, paper framework, content design, writing and revision.

Yan Yafei: Participated in writing and revising parts of the paper.

Guo Wenjiao: Provided specific revision suggestions for the paper content.

Liu Xiwen: Provided directional opinions and suggestions on the paper title and content.

Zhang Chao, Peng Hao, Yang Yuhan, Zhao Wanyu: Participated in paper revision.

Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv — Machine translation. Verify with original.